



EtherScope™

Network Assistant

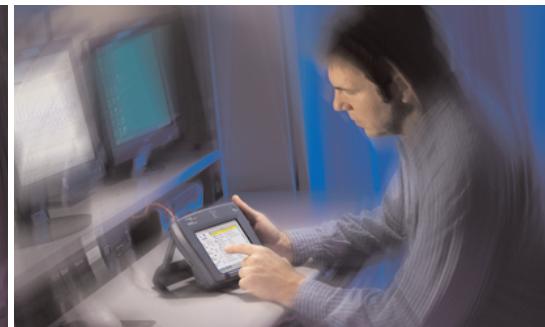
With EtherScope, you can:

- **Solve Gigabit network problems fast** – Full-duplex 10/100/Gigabit copper Ethernet testing; tests interfaces you have now and those you may have in the future.
- **Discover switches fast** – Locate available interfaces, active ports, MAC, IP, SNMP name, and link speed.
- **Capture detailed network information** – Locate, view, and store 1,000 network devices in the on-board database. Drill down on any device to see its configuration, addressing, and status.
- **View data instantly** – Pinpoint duplicate IP addresses, network misconfigurations, frame errors, collisions, high-utilization segments, and cable problems.
- **Identify vital network stats** – View Ethernet utilization, collisions and errors. Use the data to fine tune your network.
- **Boost network uptime** – Analyze performance trends with baseline data reports.
- **Easily use** – Bright, color touch-screen display, intuitive user interface with Linux®, and context-sensitive help makes EtherScope Network Assistant a snap to use.

You're working on one of your two-dozen top priority projects when you get the call. Someone's complaining about the network. It could be one of your access switches. It could be the router or WAN link. It could be a server problem, or a hacker, or a confused user. **It could be anything!**

But **you** are the one that has to investigate, isolate, and solve the problem...or at least prove it's not the network.

No problem. Thanks to your assistant, you quickly see into the network and fix the problem fast so you can get on with your life.



The fast assistant for network problem solvers.



Powerful vision into your network

VLAN discovery

Managing your VLANs has never been easier. EtherScope identifies VLANs configured on discovered switch interfaces and allows you to drill-in to see interface status, connected host details and trend interface data. If you are using a management VLAN, switches are typically not visible to the discovery process. But, with EtherScope, you can simply add your switches as user-defined devices, giving you a complete picture of your switched network. EtherScope automatically determines the nearest switch, interface and VLAN for each discovered device, making it easy to resolve issues and track configuration changes.

Network discovery

EtherScope conveniently organizes discovered devices by IP Subnets, NetBIOS Domains and IPX networks. Subnet details include address ranges and subnet masks, while domain details identify master browsers and domain controllers. An easy-to-use *Find* feature searches across all networks to quickly locate each occurrence of a device using full or partial names, IP addresses or MAC addresses.

Nearest Switch

Determining where you are connecting into the network is often the first challenge when diagnosing user issues. EtherScope's *Nearest Switch* discovery speeds you on your way whether you are troubleshooting a problem, validating a move or updating documentation by identifying the slot and port to which you are connected. With the nearest switch identified, EtherScope makes it easy to launch a web browser or Telnet session to configure the switch or examine switch details and port statistics.

VLAN Discovery

Interface Detail

VLAN/Interface	Slot/Port	Hosts
VLAN 1 (28 interfaces)		
CPod_Cat5000/10/100 100Mb	3/5	33
CPod_Cat5000/10/100 100Mb	3/6	2
CPod_Cat5000/10/100 100Mb	3/7	0
CPod_Cat5000/10/100 100Mb	3/8	0
CPod_Cat5000/10/100 100Mb	3/9	0
CPod_Cat5000/10/100 100Mb	3/11	0
CPod_Cat5000/10/100 100Mb	3/12	0
CPod_Cat5000/10/100 100Mb	3/5	33
CPod_Cat5000/10/100 100Mb	3/6	2
CPod_Cat5000/10/100 100Mb	3/7	0
CPod_Cat5000/10/100 100Mb	3/8	0
CPod_Cat5000/10/100 100Mb	3/9	0
CPod_Cat5000/10/100 100Mb	3/11	0
CPod_Cat5000/10/100 100Mb	3/12	0

Report **Details** **10Mb**

VLAN discovery

Network Discovery

Networks

- 5 Networks
 - IP Subnets (2)
 - Hosts (42)
- Domains (3)
 - Hosts (15)

Find

Networks	Address
(5) All Networks	
(2) IP Subnets (42 hosts)	
010.000.000.000/8 (1 host)	
010.000.004.001	010.000.004.001
010.248.001.000/24 (41 hosts)	
(3) NetBIOS Domains (15 hosts)	
NAMERICA (5 hosts)	
TESTNETWORK.COM (1 host)	
WORKGROUP (9 hosts)	
FNET-3UZXDC2168	010.248.001.109
HONDA-RIDER	010.248.001.116
JT-LAPTOP	010.248.001.117
KENT-RHZ8FHEIP5	010.248.001.122
STEVE'S PC	010.248.001.115
TAC-QGF330DGIE2	010.248.001.111
TESTNET	010.248.001.106
W2K3SERVER	010.248.001.098
WIN-2000-PRO	010.248.001.103

Report **Details** **10Mb**

Network discovery

Test Results

Test **Status**

Test	Status
Nearest Switch	
TAC_C-pod	
IP: 010.248.001.004	
Port: 29	
VLAN: ---	
Interface: 1Gb	
Hosts: 12	
Port utilization (%BW)	
100% Pkts in: 731	
10% Pkts out: 741	
Errors (% packets)	
100% Errs In: 0	
10% Errs Out: 0	
1% Errs In: 0	
Nearest Switch	Link 10Mb half duplex
Connection	12 ft to active device
Cable Verification	Link 10Mb half duplex
Signal Verification	Link 10Mb half duplex
Local Statistics	BW: <1%, peak: 4.6%, avg: 0.2%
Protocol Statistics	Running...
Top Talkers	Running...
Device Discovery	42 devices
Network Discovery	2 IP, 3 NetBIOS
VLAN Discovery	2 VLANs
Nearest Switch	TAC_C-pod(port 29)
Switch Scan	Monitoring 2 switches
Key Devices	All devices responding
Problem Detection	3 detected

Restart all **Details** **10Mb**

Nearest Switch



Network health – at a glance

One glance at the tri-color LEDs indicates your network's health. You'll see utilization, collisions, errors, and transmit frames.

Monitor key devices

Key Device Ping verifies connectivity to a list of user-defined devices – routers, servers or switches.

Identify capacity trends and needs

Switch port statistics and trending show steady and bursty traffic, allowing you and your staff to pinpoint problems quickly.

Control via the web

EtherScope Network Assistant supports secure remote access and control. Monitor and identify problems via your web browser by shipping an EtherScope Network Assistant to a remote site and recruiting a lay person to plug it in to the local network.

Network testing

View information about your network automatically. As soon as it's connected to the network, the EtherScope Network Assistant starts testing and displaying real-time results of devices, networks and problems. Navigate through the intuitive menus and quickly get an in-depth view of your network.

Active network and VLAN discovery

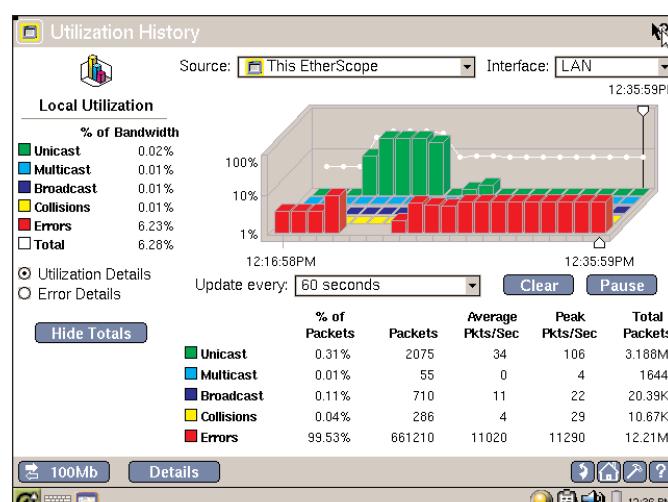
Discover up to 1,000 devices and extract switch and VLAN information showing you where users are connected. Save your staff time when they troubleshoot network connection issues and congestion.

Device	Status
Catalyst 2800	Success
WIN2KSERVER	Success
Gateway/Router	Success

Last Update: 7:19:54PM

10Mb Details Start Test Report 7:38PM

Monitor key devices



Switch port statistics

Name /	Switch-Slot/Port	VLAN
010.000.004.001	TAC_C-pod-9	
010.248.001.102	TAC_C-pod-2	
010.248.001.127	TAC_C-pod-9	
010.248.001.233	TAC_C-pod-2	1
010.248.001.234	TAC_C-pod-2	1
Catalyst 2800	TAC_C-pod-9	
Cisco1900_JT	TAC_C-pod-4	
Cisco3800Bottom		
Cisco3800Top		
Cisco7200VXR-bottom		
Cisco7200VXR-Top		
CONCORD		
CPod_Cat5000	TAC_C-pod-2	
EVTPC0275	TAC_C-pod-9	
EVTPC0683	Cisco1900_JT-13	
EVTPC0835	Cisco1900_JT-1	
EVTPC1272		

10Mb Details Add device Report 8:10PM

VLAN discovery



Identify top talkers

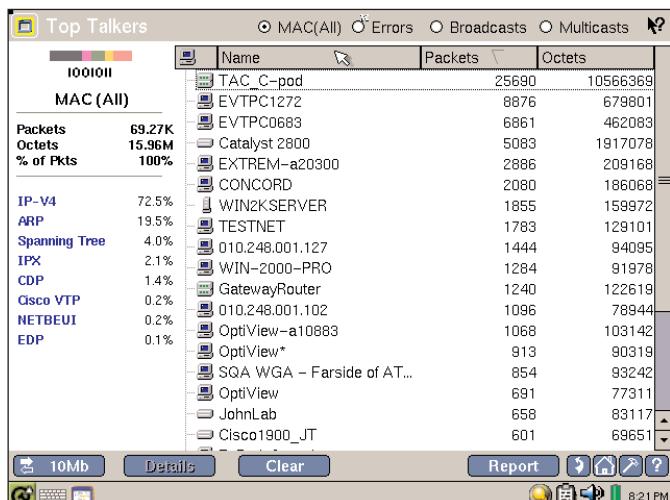
See who the top bandwidth users are at a glance. Select specific Frame Types, such as: Errors, Broadcasts, or Multicasts. Then, see the traffic displayed by protocol, such as IPV4, ARP, Spanning Tree, IPX, CDP and others. Drill-in on suspicious activity, identify the source, and quickly solve the problem.

Traffic analysis

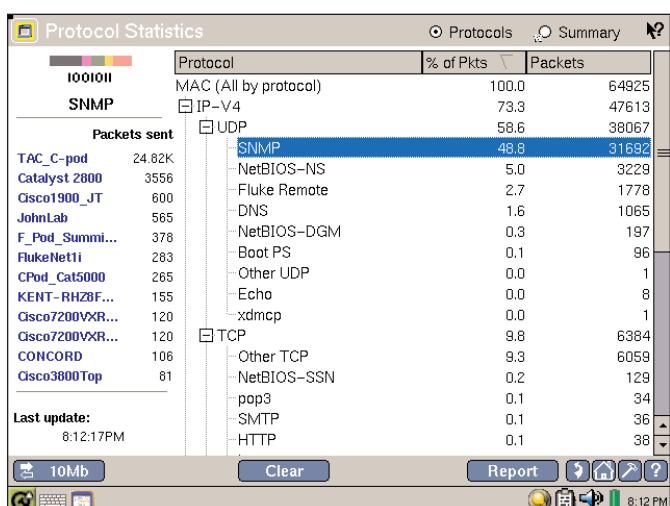
View your network's traffic statistics, including protocol mix, top senders, top broadcasters, and error sources. Identify and locate bandwidth hogs and isolate them from the network if necessary.

Switch port diagnostics

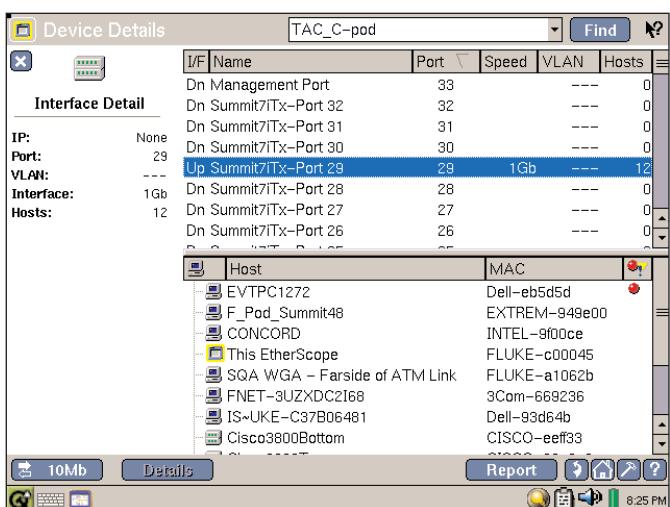
Look into your switched/VLAN networks for global problem identification at light speed. You'll see your WLANs via wired-side switch port analysis. Point to any remote SNMP/RMON device and track remote interface utilization.



Identify top talkers



Protocol statistics



Switch port diagnostics



Detect and diagnose in real time

Get data about your network automatically for fast troubleshooting and problem resolution. Find duplicate IPs, duplex mismatches, and DHCP failures. Monitor switch-port statistics, identify and track all your VLAN devices. Drill-in on the *Problems Log* to evaluate each error, warning and informational message.

Basic cable testing and signal diagnostics

Isolate hardware or cable problems from other network issues. Identify length, shorts, opens, cross-over cables, miswires, and split pairs – even on live networks. Identify key elements of your link signal, including pulse-type and voltage, auto-negotiation advertisements, and fast-link pulse decodes. Deploying Power over Ethernet (PoE)? See the dc voltage levels present on each pin to verify proper operation.

Utilities on-board for convenient field troubleshooting:

- Key Device Ping/Monitor
- TraceRoute
- Trace SwitchRoute
- IP Ping
- FTP
- Telnet
- Web Browser

Trace SwitchRoute

The MAC Layer Traceroute tool shows all Layer 2 connection paths throughout a switched network. That means your first-response network team finds nodes fast.

Problems log

Cable test results, showing PoE detection

Trace SwitchRoute



Network reports

Document your network with XML-coded reports. Record network attributes, baseline performance, device inventory, a problem log, and switch-port statistics – all in web-viewable files.

Future enhancements

EtherScope is designed for the future, with a robust processor, plenty of memory, a forward-looking Linux® operating system and a software update procedure that is a snap. Wireless, throughput, voice over IP, and fiber testing are just some of the future enhancements we are working on. As your network and your troubleshooting needs evolve, EtherScope grows with you. Your investment in EtherScope will serve you for years to come.

EtherScope™ Network Assistant							
Device Discovery - All Devices							
Sep 3 09:09:36 2004							
Name	MAC Address	IP Address	Properties	Switch	Slot/Port	VLAN	
010.000.004.001	PRIMRY-06c588	010.000.004.001	---	---	---	---	---
tacvision2	LITEON-1c7b1a	010.248.001.110	---	Catalyst 2800	9	---	---
010.248.001.233	Linksy-580c95	010.248.001.233	---	TAC_C-pod	2	100	
WIN2K3SERVER	INTEL-ef1f4a	010.248.001.030	DHCP,DNS	TAC_C-pod	2	100	
010.248.001.116	INTEL-ef1f7e1	010.248.001.116	---	Cltsc1900_JT	1	---	
TESTNET	INTEL-ef13dd	010.248.001.106	---	TAC_C-pod	2	100	
WIN-2000-PRO	INTEL-bcc7a4	010.248.001.103	---	TAC_C-pod	2	100	
CONCORD	INTEL-9600ce	010.248.001.134	---	---	---	---	
TAC-QGF330DGIE2	INTEL-751f5a	010.248.001.111	---	Catalyst 2800	10	---	
SIMULATION_SERV	INTEL-7505ab	010.248.001.089	MB	TAC_C-pod	9	100	
W2K3SERVER	INTEL-52e91d	010.248.001.098	---	TAC_C-pod	2	100	
NPIC63722	HP-c63722	010.248.001.099	---	TAC_C-pod	2	100	
Catalyst 2800	GrdJun-e92c53	010.248.001.195	---	TAC_C-pod	9	100	
010.248.001.100	FLUKE-c00074	010.248.001.100	---	---	---	---	

Network reports

EtherScope™ LAN Vision Suite

The EtherScope LAN Vision Suite gives you the fast troubleshooting power and portability of the EtherScope Network Assistant. Teamed with OptiView™ Console and OptiView™ Protocol Expert, this suite provides portable network troubleshooting plus monitoring and protocol analysis capabilities.

OptiView Console network monitoring software quickly discovers and continuously monitors network devices while documenting their connectivity. With one look at the clearly organized data, you can quickly identify where the problem is and access the detailed information you need to resolve it quickly.

OptiView Protocol Expert software provides protocol analysis directly through the network interface card in the PC on which it is running. Its expert analysis feature pinpoints problems quickly and suggests corrective action. Extensive seven-layer decodes make it easy to identify and solve tough problems on switched segments.



EtherScope LAN Vision Suite



EtherScope Network Assistant Specifications

Media access	10BASE-T, 100BASE-TX, and 1000BASE-TX
Cable tests	Length, wire map, shorts, split pairs, pin-to-pin connectivity via wire map
Ports	Hub/NIC connector (RJ-45) Wire map connector (RJ-45) RS-232C PC/Printer port (DB-9) USB port (external keyboard or mouse) CompactFlash® Card slot PCMCIA slot Microphone and headphone jacks Kensington lock receptacle
Interface	Menu-based color touch-screen display
Operating system	Embedded Linux® operating environment
Battery	Removable/rechargeable Li-Ion battery pack
Dimensions	20 cm x 16.5 cm x 5 cm (8 in x 6.5 in x 2 in)
Weight	0.9 kg (1.9 lbs)
Warranty	One year

Ordering Information

Model	Description
ES-LAN	EtherScope Network Assistant, LAN Model includes rechargeable Li-Ion battery pack (installed), yellow protective holster, instrument case with carrying strap, adapter/battery charger, remote wire map unit (#1), 64 MB CompactFlash® card and CD containing user manual and other useful files.
ES-EXT-KIT	EtherScope Network Assistant, Wired LAN Analyzer Extended Test Kit includes EtherScope LAN model plus replacement battery, external battery charger, cable ID accessory, and USB mini keyboard accessories.
ES-LAN/OVC/PE	EtherScope LAN Vision Suite includes EtherScope Network Assistant, plus OptiView Console - 500 Node and Protocol Expert software packages
ES-LAN/OVC	EtherScope LAN Vision Suite/OVC includes EtherScope Network Assistant, plus OptiView Console - 500 Node software package
ES-LAN/PE	EtherScope LAN Vision Suite/PE includes EtherScope Network Assistant, plus Protocol Expert software package

Options and Accessories

Model	Description
GLD-ES	Gold Priority Support - annual membership
ES-BATTERY	EtherScope replacement battery
ES-BATT-CHG	EtherScope external battery charger
WIREVIEW 2-6	Cable ID accessory
OPVS2-KB	Mini USB keyboard

Network SuperVision Gold Support

Sign up for our Network SuperVision Gold Support plan and you'll enjoy privileges to protect and add value to your equipment. These include unlimited 24x7 technical assistance and an exchange unit at no cost in the event something happens to your unit. Support also includes web based training, unlimited access to the knowledgebase, product discounts and "members only" promotions. See www.flukenetworks.com/goldsupport for details.



Side Interfaces – RS-232C serial port, USB port, microphone and headphone jacks, Kensington lock (opposite side).



Top Interfaces – 10/100/Gigabit port, wire map port, CompactFlash® and PCMCIA slots.

NETWORK SUPERVISION

Fluke Corporation
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Fluke Networks operates in more than 50 countries worldwide. To find your local office contact details, go to www.flukenetworks.com/contact.

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Etherscope™ Network Assistant

The fast assistant for network problem solvers.

Network Problem Solvers: Meet Your New Assistant

The EtherScope™ Network Assistant – your eyes into the network to help you spot problems and solve them faster than ever. With this portable Gigabit LAN analyzer, you'll have better network vision for proactive and reactive problem solving – critical in today's evolving networks.

Solve network problems faster with EtherScope Network Assistant.

Spot problems quickly so you can solve them even faster.

Like any invaluable assistant, EtherScope helps you do your job better. And more efficiently. That means more time for your critical IT projects and higher network uptime. Consider, for example:

- **Test at Gigabit speed; discover switches fast, too.**

Full-duplex 10/100/Gigabit copper Ethernet capabilities means EtherScope tests interfaces you have now as well as those you may have months or years down the road. It quickly identifies link status or cable problems, and sees into your switches to find active and available ports, interface statistics, and connected devices.

- **Get the big picture so you can fix it and move on.**

You can't solve the problem until you get a feel for key network services. That's why EtherScope lets you locate, view and store 1,000+ network devices in the on-board database and then dig deeper on any one of them to see its configuration and status. Find stations fast by easily viewing and sorting on MAC, IP addresses, DNS and SNMP names, and see the slot/port and VLAN for each device. You can also quickly pinpoint duplicate IP addresses, misconfigurations, frame errors, autonegotiation failures, high-utilization segments and much more.

- **Prevent problems tomorrow.**

EtherScope quickly delivers vital network stats and lets you analyze performance trends. Automated documentation with easy-to-read baseline data reports help you optimize your network and prevent future problems.

Powerful network vision

If only the rest of your job went as smoothly as it does when managing and organizing discovered devices with EtherScope. For example, EtherScope identifies VLANs configured on discovered switch interfaces and then allows you to drill-in to see interface status, connected host details and trend interface data. Discovered devices are organized by IP subnets, NetBIOS Domains and IPX networks. And EtherScope's powerful Nearest Switch feature quickly tells you where you're connected to the network and speeds you on your way by helping you see the network information you need.

From traffic analysis to real-time problem detection, EtherScope saves you precious time

From the moment you plug EtherScope into your network, it starts testing and

displaying real-time diagnostic results of devices, networks and problems. Intuitive menus make navigation easy and allow you to find exactly the testing information you need – be it a traffic analysis (with protocol mix, top senders, top broadcasters and error sources), switch port diagnostics (including WLANs displayed via wired-side port analysis and SNMP/RMON devices), Trace SwitchRoute (which shows all layer 2 connection paths), or basic cable test results.

View network health at a glance

Diagnosing the health of a network is simple and fast. Easy-to-read three-color LEDs and the information-rich Autotest results provide instant vision into the state of the LAN. Key Device Ping verifies connectivity to a list of user-identified devices – routers, servers and switches – whether they are local or remote.



Solve network problems faster with EtherScope Network Assistant.

Diagnose problems from anywhere via the Web

EtherScope fully supports secure remote access and control. So no matter where the problem is, all you need is an active web browser to diagnose remote locations – just ship an EtherScope to that location and instruct a person on the other end to simply plug it in to the local network.

Document your findings with comprehensive reports

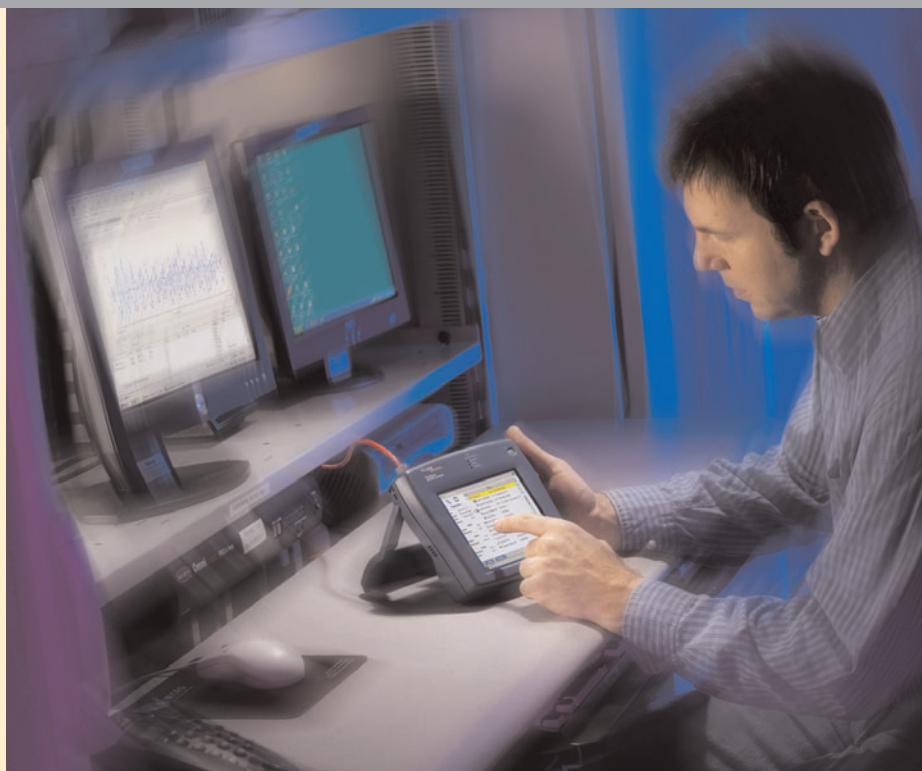
Web-viewable, XML-coded reports make it easy to review and document network attributes, baseline performance, device inventory, problem logs and switch-port statistics.

Add even more troubleshooting horsepower with the EtherScope LAN Vision Suite

By combining the diagnostic power of the EtherScope Network Assistant with

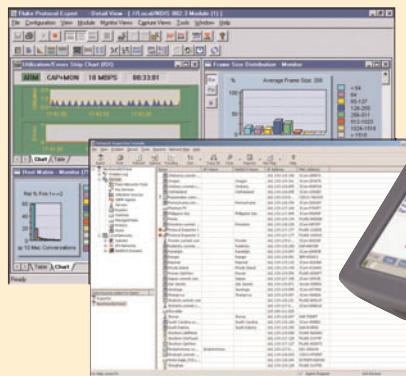
OptiView™ Console and OptiView Protocol Expert Software, this suite extends your troubleshooting capabilities even further:

- OptiView Console network monitoring software quickly discovers and continuously monitors network devices while documenting their connectivity so you can quickly identify problems.



- OptiView Protocol Expert software provides protocol analysis directly through the network interface card in the PC on which it's running to pinpoint problems and suggest corrective action.

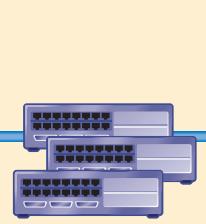
Your network assistant is waiting to show you what it can do to help make your job easier. Just go to www.flukenetworks.com/EtherScope and take a tour of the virtual demo.



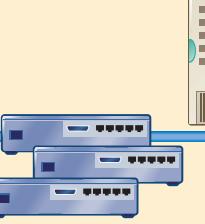
Drop



Clients



Switches



Routers



Servers/Services

Designed for today.

And for tomorrow.

We designed EtherScope to be a powerful tool for years to come. It features a robust processor, plenty of memory, a forward-looking Linux® operating system and a simple software update procedure. Wireless, throughput and fiber testing are all just a few of the future enhancements we're working on. So as your network and your troubleshooting needs evolve, so will your EtherScope Network Assistant.

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Interactive selection guide helps you pick the right product

Unsure which Fluke Networks handheld network tester or analyzer is right for you? Our on-line product selection guide can help. Just go to www.flukenetworks.com/techtools



Portable Network Test and Analysis

At Fluke Networks, we provide a suite of products – both handheld network analyzers and testers – designed to give you the information and Network SuperVision™ to both identify and prevent problems. From testers like our LinkRunner™ Network Multimeter and our NetTool™ Inline Network Tester to analyzers like the EtherScope™ Network Assistant for fast Gigabit LAN problem solving and our OptiView™ Integrated Network Analyzer for an enterprise-wide view.



NETWORK SUPERVISION

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